

### **ABSTRACT**

A plasma thin-film deposition method for depositing a thin film on the surface of an object, wherein a plasma is generated in one or more inert plasmagenic gases and precursor gases, and the plasma is sprayed onto the surface being treated. The one or more precursor gases include at least two components, namely a first component including saturated organic substances and a second component including unsaturated organic substances, where the first component is a light radical source having a single free bond following a plasmochemical process carried out into the plasma zone, and the second component is a heavy radical source having two or more free bonds.